DOCUMENT RESUME

ED 046 448 LI 002 477

AUTHOR	van der Brugghen, W., Ed.
TITLE	Key to Information, Universal Decimal Classification.
INSTITUTION	International Federation for Documentation, The Hague (Netherlands).
REPORT NO	FID-466
PUB DATE	Jun 70
NOTE	14p.
AVAILABLE FROM	International Federation for Documentation, Hofweg 7, The Hague, Netherlands
EDRS PRICE	EDRS Price MF-$0.65 HC Not Available from EDRS.
DESCRIPTORS	Automation, *Classification, *Indexes (Locaters), *Information Retrieval, *Information Storage, Information Systems
IDENTIFIERS	UDC, *Universal Decimal Classification

ABSTRACT

This short guide to Universal Decimal Classification (UDC) presents the most essential facts about this system in a simple and concise manner. The main features of the scheme which treats all human knowledge and science as a coherent pattern of interrelated subjects are presented along with a structure of the schedules for the main and auxiliary tables, and listings of the language and special subject editions. Updating and revision efforts and the mechanization and compatibility features are described. (AB)

ED 046448

KEY TO INFORMATION

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UNIVERSAL DECIMAL CLASSIFICATION

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LI 002477

International Federation for Documentation
Hofweg 7, The Hague, Netherlands
FID publ. 466, June 1970

The Universal Decimal Classification (UDC) is a comprehensive and up-to-date scheme for indexing information in all branches of knowledge, so that it can be stored in an orderly manner and easily retrieved from many different points of view.

Its notation, based on arabic numerals familiar the world over in a recognized order, solves natural language problems and hence facilitates international exchange of information, while the decimal structure is easily extended for detailed division of any part of the schedules at any desired level.

Adopted by more than 100,000 organizations throughout the world, hitherto mainly for conventional (manual) systems, it is being increasingly used in mechanized systems and computer-aided networks.

With an international organization for regular updating and revision, and its availability at several levels of detail and in many language editions, the UDC has proved its value for many years and is, indeed, a ready-made key for storage and retrieval of information.

The aim of this short guide is to present – simply and concisely – the most essential facts about this system.

W. van der Brugghen

Editor

MAIN FEATURES

The Universal Decimal Classification (UDC) is an all-embracing universal scheme treating all human knowledge and science as a coherent pattern of interrelated subjects. The whole field of knowledge, regarded as unity, is divided into 10 main classes denoted by decimal fractions .0 to .9 from which the initial point is omitted for convenience:

0 Generalities, incl. Documentation and Organizations
1 Philosophy. Psychology
2 Religion. Theology
3 Social sciences, incl. Education
4 temporarily vacant (Linguistics transferred to 8)
5 Mathematics and Natural sciences
6 Applied sciences. Medicine. Agriculture. Engineering and Technology
8 Language(s). Linguistics. Literature
9 Geography. Biography. History

On this foundation, two-figure subclasses and further divisions are built in by extension of the decimal fractions, on the principle of proceeding from the general to the particular, as shown in the next section. This notation is an important practical feature, which the UDC shares with its precursor, the Dewey Decimal Classification (DC), still widely used in many parts of the world, especially in public libraries. The detail of subdivision in DC, however, has been intentionally restricted in order to keep the scheme more suitable for library use and, hence, has never attained the degree required for bibliographical purposes, i.e. the precise indexing of subjects and aspects (facets) treated in documents.

The main features of the UDC, which distinguish it from the Dewey DC and make it more suitable for detailed classification are:

- the 'colon' symbol, to indicate the relationships between concepts, by directly linking the relevant UDC numbers;
- the auxiliary tables, for identifying aspects common to all parts of the UDC or to special parts only (see next section).

Today, when specialization and complex interdisciplinary interests have become so intricate, the UDC is uniquely suitable

- for use as a 'switch language' between different classification schemes and thesauri developed for special subject interests in different languages;
- for switching blocks of technical or scientific data, literature references or abstracts, to meet the special requirements or 'profiles of interest' of individual institutions or users in a selective dissemination of information system, be it national, regional or international.

STRUCTURE OF THE SCHEDULES

The UDC structure may be best explained by an extract from the schedules, which consist of the main classes 0 to 9 and a full range of auxiliary numbers, all minutely detailed. The UDC thus permits precise classification of all aspects or facets treated in a document.

Main Table

0	GENERALITIES
002	Documentation
005	Methodology. Organization study
007	Information theory. Cybernetics
01	Bibliography
02	Library science
06	Organizations. Associations
069	Museums
1	PHILOSOPHY. PSYCHOLOGY
11	Metaphysics
14	Philosophical systems
159.9	Psychology
16	Logic
17	Ethics
2	RELIGION. THEOLOGY
21/25	Theology
26/28	The Christian Church
294	Buddhism. Hinduism
296	Jewish religion
297	Islam. Mohammedanism
299	Other religions (Asian, African, etc.)
3	SOCIAL SCIENCES
30	Sociology
31	Statistics
32	Political science. Politics
33	Economics
330	Political economy. Economic theories
331	Labour
334	Cooperative movement
336	Finance
338	Production. Economic situation
34	Law and legislation
341	International law
342	Constitutional, public law
343	Criminal, penal law
347	Private, civil and commercial law
35	Public administration. Government
351	Public services
352	Local government. Municipal administration
353	Regional (provincial, county) administration
354	Central government. Ministries
355/359	Military science. Armed forces
36	Social relief. Welfare. Insurance
361	Social relief
362	Social welfare
368	Insurance

37	Education
371	Organization
372	Programmes
373	School education
374	Out-of-school education
376	Special education (handicapped, etc.)
377	Vocational training
378	Higher education, universities
379.8	Leisure
38	Commerce (s.a. 658)
39	Ethnography. Folklore
4	temporarily vacant (Linguistics transferred to 80)
5	NATURAL SCIENCES
51	Mathematics
52	Astronomy. Geodesy
521/525	Astronomy
528	Geodesy. Photogrammetry. Cartography
53	Physics
531	General mechanics
532	Fluid mechanics. Hydromechanics
533	Gas mechanics. Aeromechanics. Plasma physics
533	Vibrations. Acoustics. Sound
535	Optics. Light
536	Heat. Thermodynamics
537	Electricity
538	Magnetism. Electromagnetism
539.1	Nuclear physics (s.a. 621.039)
539.2	Solid state physics
54	Chemistry
541	Theoretical and physical chemistry
542	Experimental chemistry
543	Analytical chemistry
546	Inorganic chemistry
547	Organic chemistry
548	Crystallography
549	Mineralogy
55	Geology, Meteorology
550.3	Geophysics. Seismology
551.2	Geodynamics
551.4	Geomorphology. Oceanography
551.5	Meteorology
552	Petrology
553	Economic geology. Minerals. Ores
556	Hydrosphere. Water. General hydrology
56	Palaeontology
57	Biological sciences. Anthropology
57.08	Biological technique
58	Botany
59	Zoology
6	APPLIED SCIENCES
608	Inventions. Patents
61	Medical sciences
611	Anatomy

612	Physiology
613	Personal and occupational hygiene
614	Public health and safety. Accident protection
615	Pharmacy
616	Pathology
617	Surgery. Ophthalmology
618	Gynaecology
62	Engineering and technology
620.1	Materials testing. Metallography
621	Mechanical and electrical engineering
621.039	Nuclear technology (s.a. 539.1)
621.22	Water power. Hydraulic energy
621.3	Electrical engineering
621.39	Telecommunication engineering
621.4	Internal combustion engines
621.5	Pneumatic energy. Refrigeration
621.6	Fluid and gas conveyance and storage
621.7	Plastic working. Forge, foundry, etc.
621.791	Welding
621.798	Packing
621.8	Power transmission. Materials handling
621.9	Tool and machine tool working
622	Mining
623	Military and naval engineering (s.a. 629)
624	Civil engineering (s.a. 69 and 72)
625	Railway and highway engineering
626/627	Hydraulic engineering and construction
628	Public health engineering
629	Transport engineering
629.11	Land vehicles
629.12	Ships
629.7	Air/Space transport engineering
63	Agriculture. Forestry. Fisheries
631	Agronomy
631.3	Agricultural machinery
631.4	Soil science
631.5	Agricultural operations. Cultivation methods
632	Plant diseases and protection
633	Crop cultivation. Crops
634.0	Forestry
634.1/.8	Fruit cultivation. Viticulture
635	Horticulture
636/638	Animal husbandry and produce
639	Game. Fisheries
64	Domestic science. Food and meals. Laundering
65	Management
651	Office management
654	Long distance communication services
655	Graphic industry. Printing. Publishing (s.a. 681.6)
656	Transport and postal services
657	Accountancy and bookkeeping
658	Business and commercial management
659	Publicity. Information. Public relations

66	Chemical industries
66.0	Chemical engineering
661	Chemicals
662	Explosives. Fuels
663	Technical microbiology. Beverages
664	Food technology
665	Oils. Fats. Waxes
665.1/.3	Natural oils, fats and waxes
665.6/.7	Petroleum technology
666.1/.2	Glass industry
666.3/.7	Ceramic industry
666.9	Gypsum, lime and cement industries
667	Colour industries
669	Metallurgy
669.1	Ferrous metals. Iron and steel
669.2/.8	Non-ferrous metals
67/68	Various industries and crafts
674	Timber and woodwork industry
675	Leather industry
676	Pulp and paper industry
677	Textile industry
678	Rubber and plastics industries
681	Precision mechanics. Horology
681.3	Data processing machines and equipment
681.6	Reproducing and printing machines (s.a. 655)
684	Furniture industry
687	Clothing industry
69	Building industry (s.a. 624 and 72)
7	ARTS. ARCHITECTURE. SPORT
71	Physical planning
72	Architecture
73	Sculpture
74/76	Graphic arts. Drawing, painting, engraving
77	Photography
778.1	Photocopying. Microcopying
778.5	Cinematography
78	Music
79	Entertainment. Games. Sport
791	Public entertainment. Performances
792	Theatre
793/794	Social entertainments. Games
796/799	Sport
8	LINGUISTICS. LANGUAGES. LITERATURE
80	Linguistics. Philology
802/809	Individual languages
82	Literature
820/899	Literature of individual languages
9	GEOGRAPHY. BIOGRAPHY. HISTORY
91	Geography
92	Biography
93/99	History

Auxiliary Tables

The + (addition) or / (extension) signs are used to connect consecutive or separate UDC numbers, e.g.

622+669	Mining and metallurgy
355/359	Military science: land, air and navy forces

The : (relation) sign is used to denote the relationship between two or more distinct concepts expressed by different UDC numbers, e.g.

17:7	Ethics in art

The language of a document is indicated by =0/=9, e.g.

= 20	English
= 30	German
= 40	French
= 50	Italian
= 60	Spanish
= 690	Portuguese
= 82	Russian
= 927	Arabic
= 951	Chinese
= 956	Japanese
= 96	African languages

The form of a document is indicated by (0...), e.g.

(02)	Books
(03)	Dictionaries. Encyclopaedias
(04)	Brochures. Reports
(05)	Periodicals and serial publications

Place and spatial features are indicated by (1/9), e.g.

(100)	International
(15)	Space
(21)	Land areas. Zones, regions
(23)	Mountains
(26)	Oceans. Seas
(28)	Rivers
(3)	The ancient world
(4)	Europe
(5)	Asia
(6)	Africa
(7)	North and Central America
(8)	South America
(91/96)	Australasian and Oceanian territories
(98/99)	Polar regions

Race and nationality are indicated by (=0/9), e.g.

(= 081)	Primitive races
(= 088)	Half-casts
(= 1-81)	Indigenous. Natives

Date and time factors are indicated by "0/9", e.g.

"32"	Seasons
"5"	Periodicity

Letters of the alphabet or special numbers can, if necessary, be added to UDC numbers, e.g.

820 Shaw	Shaw's works
656.13(421) No. 73	London bus line No.73

Point of view can be expressed by a detailed range of .00... auxiliaries, e.g.

.000.1/.9	Divided as main classes 1/9, e.g.
.000.2	Religious point of view
.000.5	Scientific point of view
.001	Theoretical point of view: programmes, plans, research
.002	Practical point of view: production, materials, etc.
.003	Economic point of view
.004	Operation, service point of view
.006	Site, accommodation point of view
.007	Personnel, manpower point of view

Personal characteristics are indicated by -05, e.g.

-053.2	Children
-055.1	Men, male
-055.2	Women, female
-057	Occupation
-088	Social class

Special Auxiliaries

In addition to the general auxiliary numbers which are applicable throughout the UDC, there are two series of special auxiliaries applicable in limited sections of the UDC: these have the notation -1/-9 and .01/.09, e.g.

621.798-982	Vacuum packings
72.03	Periods and styles of architecture

Synthesis, or integration of two or more components expressed by UDC main numbers, can be denoted by an apostrophe, e.g.

546.561'131	Cuprous chloride resulting from a combination of
546.561	Copper (cuprous) oxide
546.131	Hydrochloric acid

EDITIONS IN VARIOUS LANGUAGES

The full tables of the UDC contain some 200,000 direct subdivisions. Many users will not require this detail and will be satisfied with a selection suiting their particular needs.

The wide publication programme of UDC editions provides a full range of editions at various levels and in various languages:

- abridged editions, containing some 10% of the full achedules;
- medium editions which contain some 30% of the schedules;
- full editions, of course containing 100%, but unlike the single-volume abridged and medium editions issued in separate volumes covering one or more main classes of the UDC.

At present editions are available (+) or in preparation (o) in the following 22 languages:

	abridged	medium	full (1)
Arabic	o		
Czech			+
Dutch	+		
English	+	o	+
Finnish	+		
French	+	+	
German	+	+	+
Hebrew	+		
Hungarian	+		+
Italian	+		
Japanese	+		+
Macedonian	+	o	
Polish	+	o	+
Portuguese	+	o	+
Romanian			o
Russian		+	+
Serbo-Croat	+	o	o
Slovene	+	o	
Spanish	+	o	+
Swedish (2)	+		

(1) not always all classes have appeared
(2) with Danish-Norwegian-Swedish index

Moreover, there are special-subject editions containing the full tables for the subject treated and the other classes at abridged level (see page 12). In case there is no special-subject edition a user may select an abridged or medium edition for all classes and the relevant volume(s) of a full edition for subject(s) of interest – thus making his own special edition.

Nearly all UDC editions contain an alphabetical subject index which facilitates location of particular topics under the relevant UDC numbers.

GUIDES FOR USERS

There are several guides to the UDC, some containing an abridged version of the tables, e.g.

- Guide to the UDC. London, British Standards Institution, 1963
- La CDU. Manuel pratique d'utilisation. Paris, Gauthier-Villars, 1966

- Einführung in das Wesen der Dezimalklassifikation. Berlin, Beuth-Vertrieb, 1969
- Praktische Anwendung der DK, Klassifizierungstechnik. Leipzig, VEB Bibliographisches Institut, 1965
- Handbuch der Klassifikation. Heft 1: Die DK, Aufbau und Arbeitsmittel. Heft 12: Die DK, Anwendung und Weiterentwicklung. Stuttgart, Dorotheen-Verlag, 1960
- Wprowadzenie do UKD. Warsaw, CIINTE, 1966
- Praktičeskoe primenie UDK, Tehnika klassifikacii. Moscow, VINITI, 1967
- La CDU, Manual práctico. La Habana, Instituto de Documentación e Información Científica y Técnica, 1966
- Handledning i UDK-systemets användning. Stockholm, TLS, 1970

UDC users are generally best served by:

1. a guide explaining the system,
2. an abridged or medium edition for general classification, also giving sufficient detail in border fields,
3. relevant sections of full editions for detailed classification of the subject of primary interest,
   or, if existing, a special-subject edition combining all these features in one volume.

SPECIAL SUBJECT EDITIONS

The following is a selection from more than 50 special-subject editions available and listed in the FID Publications Catalogue, which also includes a score of 20 editions in Russian.

- Special edition for Education. The Hague, FID, 1965
- Edition spéciale Education. The Hague, FID, 1965
- Fachausgabe Geodäsie, Photogrammetrie, Kartographie. Frankfurt/Main, Institut für Angewandte Geodäsie, 1967
- Special-subject tables for Geology, Surveying, Cartography. Springfield, Va. (USA), Clearinghouse for Federal Scientific and Technical Information, 1970
- German/English/Japanese trilingual UDC Pharmacy. Tokyo, Pharmaceutical Society of Japan, 1968
- Special-subject edition for Nuclear science and technology. The Hague, FID, 1964
- Special-subject edition for Metallurgy. London, The Iron and Steel Institute, 1964
- CDU pour les sciences agricoles. Paris, Institut National de la Recherche Agronomique, 1966
- Dokumentation im Betrieb. Zürich, Verlag Organisator, 1959
- Extrait de la CDU relatif au domaine du verre. Charleroi (Belgium), Union Scientifique Continentale du Verre, 1964
- Abridged Building Classification, ABC. Rotterdam, Bouwcentrum, 1955 (in 12 languages).

UPDATING AND REVISION

The UDC is currently updated by the UDC Revision Committees for particular sections of the system, by individual experts, or by the FID Classification Department. The revision work is supervised by the Central Classification Committee (FID/CCC) and follows a strict procedure in order to obtain uniformity in the development of the UDC*. In several countries the UDC is registered as an official standard (Great Britain, Hungary, Spain) or prescribed as the official system for classification of scientific and technical literature (USSR), and it is officially used in other East European countries.

In many cases the UDC Revision Committees take necessary action for revision of the schedules, but any user is entitled to suggest a revision. Due credit must be given to the unnumerable experts who help the FID and its CCC to keep the schedules up to date.

Proposals for revision or extension of the UDC schedules (P Notes) are published, when approved, in the half-yearly "Extensions and Corrections to the UDC" (English, French or German), which are cumulated in 3-year periods and constitute the official supplements to the full schedules of the UDC. A "Cumulated Supplement" covering the years 1934-1964 appeared in 1967.

Thus, full editions can be updated by the "Cumulated Supplement – 1964" and later series of the "Extensions" for the years 1965-1967 and 1968-1970. For updating the more recent medium editions, a subscription to Series 7 of the Extensions (1968-1970) is all that is needed to keep the schedules up to date. The abridged editions are updated by the recently published trilingual (English-French-German) "10-Year Supplement to Abridged Editions, 1958-1968".

MECHANIZATION AND COMPATIBILITY

All over the world the UDC is used in manually operated systems – whether simple card files or punched card systems. With perhaps a little more mechanization, this will remain the practice for most individual users in the near future.

Information networks, however, usually require maximum automation, and experiments in the past 10 years – mainly in the USA, but also in other countries (Denmark, Germany, etc.) – have demonstrated that the UDC is also usable in computer systems.

The usability of the UDC in computer systems was shown at a seminar in Copenhagen in September 1968†, and again at a second seminar in Frankfurt in June 1970. Further seminars will serve to make those interested familiar with the most recent developments.

The diversity of scientific progress and the corresponding proliferation of special indexing languages has led to the creation of special-interest schemes either as classification schedules or as thesauri and descriptor lists. This raises the important question of compatibility between systems and consequently, the complementary use of different indexing systems in any world network for the exchange of information.

The best prospect of achieving a reasonable degree of compatibility among them seems to depend on linking such systems with a general classification like the UDC, covering all disciplines, in combination with a general thesaurus or thesauri.

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* UDC revision and publication procedure/Procédure de revision et de publication de la CDU/Das Verfahren bei Bearbeitung und Veröffentlichung der DK. The Hague, FID, 1968

† Proceedings of first seminar on UDC in a mechanized retrieval system. Copenhagen, Danish Centre for Documentation, 1969

In this way, the UDC, a classification system for storage and retrieval of information in all fields of human knowledge with a code understood by computers and available in many language editions to suit individual users, may well become the major 'switch language' in the exchange of information in fully automated networks.

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More information and the "Catalogue of FID Publications", with details of all UDC editions, can be obtained free from

International Federation for Documentation (FID)
Hofweg 7, The Hague, Netherlands

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